



MQ Series / NJ Remote System Interface Guidelines

Remote System Connectivity Requirements

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DOCUMENT REVISION HISTORY

A Revision Log that details all changes to this document can be found in the Appendix.

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MANAGEMENT SUMMARY

Introduction

The purpose of this document is to outline the CJIS MQ interface requirements for remote New Jersey Mobile Data Computer (MDC) and Computer Aided Dispatch/Records Management (CAD/RMS) systems. For the purpose of this document, these systems will be commonly referred to as "NJ Remote Systems". Clients having a need or interest in this interface are those who have or will be implementing their own "value added" computer systems, typically having on-site "Front End" software. This software would in turn require the support of the NJSP CJIS for interfaces to NJDMV, NCIC and other Criminal Justice related systems.

The MQ Series/NJ Remote Systems Interface will provide NJ Criminal Justice Agencies' (Local PDs, County Interfaces, ...) access to the NJSP CJIS Server applications. This interface supports the most current technological advancements related to NJSP and NJ Criminal Justice applications, such as NJ Wanted Persons, as well as connectivity to NCIC 2000 and NLETS. CJIS Server applications support image transmissions including fingerprints and mugshots as well as advanced messaging techniques that are not available with the older SNA technology.

The MQ Series product will be employed as the communications interface between NJ Remote Systems and the CJIS Server applications, resident on the NJSP mainframe. The Remote Systems will interface with the CJIS Server, via MQ, for specific Inquiry requests related to National Crime Information Center (NCIC 2000), NJ Wanted Persons, NJ DMV, and National Law Enforcement Telecommunication System (NLETS).

CJIS Clients will still be able to interface with the CJIS environment using the older Sockets technology. Moving forward, this facility will not approach the capabilities that will be able to be attained via the MQ interface. The Sockets interface will continue to be supported and will have future enhancements applied as ITB resources and funding becomes available. MQ enhancements will take priority over the older interfaces. In addition, the NJSP SNA interface will be phased out in July 2002.

MQ Series much better positions the NJSP for future advancements and add-on capabilities due to the following:

- MQ is neither system nor application "Platform dependent"
- Reduced business application complexity will result in timelier and less costly development
- Business Applications are independent of the Communications software and therefore much easier to manage.

The MQ Series product had been selected by NJSP as the logical step in upgrading the CJIS Telecommunications environment. It is currently operational, in production, interfacing with the NJSP Computer Aided Dispatch/Report Management (CAD/RMS) system and has proven to be extremely reliable.

Business / Technical Overview

The MQ Series product family supports extremely large data transmissions, up to 100 megabytes. Its queuing facility guarantees the one (1) time delivery of messages. Both of these features are critical in supporting the CJIS Server environment and, in particular, the NJSP interface with the NCIC where larger transmissions that include images such as mugshots and fingerprints will continue to proliferate.

The MQ Product's Application Program Interface (API) supports multiple application connectivity. Over twenty (20) different platforms are, currently, recognized and supported by the MQ API. These include OS/390, Windows NT and UNIX systems, which are the primary operating systems utilized by connecting Remote System interfaces. Other supported interfaces are Windows 2000, AS400, AIX, Linux, and Solaris.

The CJIS MQ Interface is intended to be the backbone for CJIS Inquiry communications. It currently supports the NJSP CAD/RMS and MDC computer systems. The integration of existing and future applications, requiring message queuing and delivery functionality, will also be a priority of the NJSP Information Technology Bureau (ITB).

Features/Benefits

- **Diversity** – multi platform application support from a single NJSP MQ interface
- **Compartmentalization and Reduced Development Costs** – Applications and their developers from the NJSP as well as the NJ Remote Systems perspectives are isolated from the MQ product and the communications related programming that previously had to be developed at the application level.
- **Implementation Efficiency** – Testing and implementation efforts are reduced and made much simpler due to the communications processing being isolated to the internals of the MQ Series product.
- **Reliability** – At this time, May 2001, the MQ Series Product has been in use, on the NJSP Production system for over a year. It is currently supporting the NJSP CAD/RMS system. Implementation of this interface was relatively simple and, to date has had no "Product related" outages.
- **Increased Productivity and Throughput** - With the implementation of the NJSP CAD/RMS and MDC applications; CJIS Inquiry message volumes will have increased dramatically and will continue to do so as new Remote Systems MQ interfaces are introduced. Increased message volume has been a CJIS "non factor" with the support of the MQ product interface.

NJSP CONTACT INFORMATION

<i>Team Member Name</i>	<i>Organization</i>	<i>Role</i>	<i>Contact Info</i>
Bill Donahue	NJSP ITB	Primary Contact – NJSP Application Support	609-882-2000 (ext. 2981) LPPDONAW@gw.njsp.org
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Note: Remote System Administrator or Vendor contacts and inquiries are to be directed to the Primary NJSP Contact person unless otherwise directed.

PROJECT SCOPE

Introduction –

The MQ Series product is very versatile in the platforms it can support as well as the functionality it can provide. In an environment that is robust with messaging traffic, Message Queuing performs a vital role in ensuring that messages get delivered to their destinations and the associated work is performed in a timely manner.

The MQ Series product has been designated as the preferred method for interfacing with the CJIS Server applications. It will provide participating agencies with the most current Criminal Justice informational features and capabilities, both at the New Jersey State and National levels.

The MQ / Remote System interface supports only inquiry requests. There are no plans to incorporate other CJIS transactions such as Criminal History, NCIC Entries, Locates, ... into the MQ interface.

Specific Message formats must be adhered to when forwarding a request via this interface. The message format is made up of two (2) primary groups of data fields, the Client Header and the Client Message. Each of these sections must be formatted specifically to the type of request being forwarded to the CJIS Server.

Note: Specific field layouts and requirements will be included further in this document and in the Appendix.

Access Security via this interface will be implemented in a multi-tiered approach. The NJSP mainframe's ACF facility will provide access security control at the CJIS mainframe's MQ Connection point referencing the Agency's IP address and ORI. The CJIS Server applications will impose additional authorization security related to an Agency's Originating Agency Identifier (ORI) where authorized Inquiry requests will only be permitted.

Business Functionality –

General information concerning Interface components and requirements will be outlined in this section. Specifics, regarding all system requirements necessary for both the Remote Systems as well as the CJIS Server applications, will be covered in the latter part of this document.

System Components and Definitions

In general, MQ Series will provide the infrastructure to forward NJ Criminal Justice related inquiry requests to the CJIS Server applications from Remote New Jersey Criminal Justice computer systems.

NJ Remote Systems will build the designated Inquiry request(s) and forward them via the communication connection established between the MQ Series Queue Managers, installed on the Remote System, and the CJIS Server (mainframe computer) in West Trenton, NJ.

MQ Series Queue Managers will need to be defined for each Remote Server Installation desiring to connect to the CJIS Server Queue Manager. The Queue Manager provides the means for defining MQ Series Objects and their properties. These Objects (Local Queues, XMIT Queues, ...) are the necessary components required to facilitate the transmission of the requests and corresponding responses between NJ Remote Criminal Justice systems and the CJIS Server.

Within each Queue Manager are the MQ definitions relating to:

- **Local and Remote Queues** – used to hold and distribute messages
- **Message Channel Agents** – establishes connections between the Remote Systems and CJIS and facilitates the transmission of messages between systems.
- **Other MQ Objects** – Queues for obsolete or undeliverable messages, ...

Communications between the two (2) systems will be supported by two (2) sets of MQ Channels (Message Channel Agents – MCA). A unique Sender and Receiver channel, for each Remote System connection, will be defined on each Remote system and connected to the corresponding Channel on CJIS. The Remote Systems' Sender Channel will be directly referenced to the corresponding CJIS Receiver Channel. The Remote Systems' Receiver Channel will be directly referenced to the corresponding CJIS Sender Channel. Each pair of Sender/Receiver Channels is uniquely named for each Remote System/CJIS Server interface relationship.

Note: Detail requirements regarding the Remote System MQ Object definitions will follow later in this document.

Refer to the Appendix to view a System Diagram depicting the typical MQ Series interface between a Remote System and the CJIS Server.

Data Representation

Request messages received from the Remote Systems are to be in ASCII format. The CJIS Server will translate the request messages to EBCDIC, where necessary, prior to forwarding the request to the associated CJIS data sources. Subsequent response messages will be forwarded to their remote System requestor in the following manner.

- Text data – ASCII
- Image data - Binary

Messaging Interface

Interfacing Remote Systems will provide/develop the Client Front End software necessary to build the associated requests and process their returned responses.

Remote Systems will build the requests in the designated message formats identified further in this document. Once a request is ready to be transmitted to the CJIS Server, the Remote System will "Put" the request message to the designated CJIS Server Request Queue.

Remote System Requests will be distributed, by CJIS, to the designated Criminal Justice systems. Returned responses will be processed, by CJIS, for delivery to the requesting Remote system. CJIS, utilizing MQ Series, will "Put" associated response messages to the designated Remote System Response ("Reply-To") Queue.

The Remote System will "Get" responses from their local "Reply-To" Queue and disseminate them accordingly.

MQ message data is comprised of 2 groups of data, 1) MQ Message Descriptor, and 2) User Data.

<i>MQ Message Descriptor</i>	<i>User Data</i>
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MQ Message Descriptor - is system level data and can be accessed by both the MQ System software as well as the applications employing MQ as their communications interface.

This area is a system level group of fields that is managed and interrogated by MQ Queue Managers as application messages are being processed through MQ Series.

Application programs will initialize the appropriate fields in the MQ Message Descriptor (MQMD) prior to calling the MQ API (Put, Get, ...) to initiate specific processing. In addition, the application will be able to interrogate MQ system level fields to examine the results of the requested MQ action, following an API Call, and determine subsequent processing that is to take place.

The MQ Message Descriptor is appended to the beginning of the Application Message Area at the time the MQ API Call is executed via the MQ PUT or GET command.

Note: Specifics concerning the individual MQ Message Descriptor fields and their use will be defined further in this document are also available in the MQ Series Help Facility.

MQ User Data – is application level data that is not interrogated by the MQ System Software. It is comprised of two (2) sections 1) CLIENT HEADER and 2) CLIENT MESSAGE.

CLIENT HEADER data is control information related directly to the communication interface requirements for Remote Systems that will be interfacing with the CJIS Server.

CLIENT MESSAGE is the application area that will hold the physical request or response message.

The following will provide a brief synopsis of the more important fields and their use in both the Request and Response messages processed by the MQ / Remote System interface. A full list of data definitions and requirements will follow further in this document.

Request Messages – CLIENT HEADER

Inquiry messages from Remote Systems will have their corresponding response message levels controlled, primarily, by two (2) fields, MESSAGE-TYPE and MESSAGE-KEY. This section of the document will focus on the properties of these two (2) fields. Other fields in the CLIENT HEADER group will provide identifying information such as Response Priority, the Remote Client's Individual Hardware Id and the Remote Client Individual Identifier. Specifics concerning the balance of the CLIENT HEADER fields can be found further in this document.

MESSAGE-TYPE -

MESSAGE-TYPE is utilized to identify a specific NCIC Inquiry request be processed or a more flexible "automated set of Inquiries" be generated by the identifying data forwarded with the Inquiry Request.

MESSAGE-TYPE is a field in the CLIENT HEADER group and is to be initialized, accordingly, by the Remote system before forwarding the request to the CJIS Server.

Inquiry MESSAGE-TYPE designations, supported by the CJIS Server are **Bundled** and **NCIC**.

Bundled Type – this Inquiry type is identified using the MESSAGE-TYPE code "BNDLE".

The Bundled message type provides "Real Time Discovery" capability. That is, as intelligence concerning a specific request is gathered, additional requests are generated, internally, to insure that all information sources have been accessed and the resulting responses returned to the requestor.

Submitting a bundled request message will result in the CJIS Server application generating (spawning) a series of related inquiries and forwarding them to the appropriate information source (NCIC, NJ DMV, NJ Wanted Persons, ...).

Bundled requests relate to both Vehicle as well as Person Inquiries. A bundled vehicle request can contain, minimally, a vehicle's License Plate, if a New Jersey vehicle, or License Plate & License State, if not a NJ vehicle.

From this very basic request message (License Plate, License State), the following Inquiries will be spawned, eliminating the requestor from having to generate separate related request messages.

1. NCIC Stolen Vehicle Inquiry
2. NJ DMV Vehicle Inquiry (if LIS not included or equal to "NJ")
3. NJ DMV Vehicle Owner Inquiry (if LIS not included or equal to "NJ")
4. NLETS Vehicle Inquiry (if LIS equal to "non NJ")
5. * - Additional Person Inquiries (NJ related Inquiries)

Note:

* - Additional NCIC Wanted Person and NJ Wanted Person Inquiries may be spawned depending on the initial response from NJ DMV in regard to returned vehicle ownership information.

The spawned person inquiries are built utilizing a hierarchical reference. NCIC and NJWP Person inquiries can be generated from NJDMV responses when vehicle owner data is returned in the NJDMV response. Vehicle Owner data in the form of the Name/Full DOB or NJ Driver License Number (OLN) will result in NCIC and NJWP Person inquiries being generated.

The hierarchical reference is:

1. Owner Name / Full DOB
2. NJ Driver License Number (OLN)

If the Owner's Name and Full Date of Birth (YYMMDD) is returned in the vehicle response then the NCIC and NJWP Person Inquiries will be spawned using the Name/DOB information. If a partial DOB(YYMM) is returned in the vehicle response and the OLN is present then the NCIC and NJWP Person Inquiries will be spawned using the OLN criteria.

In either scenario only 1 set of NCIC and NJWP Person Inquiries will be automatically generated from a NJ DMV response that contains qualifying Vehicle Ownership data.

NCIC Type – The Remote System/CJIS Server interface supports single NCIC Inquiry formats. The NCIC messages reflect the same message format as has been in existence prior to the implementation of NCIC 2000.

NCIC Stolen Vehicle (QV) and NCIC Wanted Person (QW) Inquiries are supported by the "NCIC" MESSAGE-TYPE. Other NCIC inquiries, including Gun (QG), Article (QA), and Boat (QB), are also supported.

These requests are processed by the older CJIS interfaces in the same manner as the traditional NCIC inquiry requests.

As an example, a QV request will result in Inquiries being forwarded to:

1. NCIC Stolen Vehicle
2. NJ Wanted Persons (Vehicle Key)
3. NJ DMV if the vehicle information reflects a NJ registration.

Note: QVs with out of state (non-NJ) vehicle designation do not generate NLETS Vehicle Registration (RQ) Inquiries. **The "Bundled" message type has to be utilized to automatically spawn an NLETS RQ message if the Vehicle inquiry information relates to an out of state vehicle.**

MESSAGE-KEY –

MESSAGE-KEY is a second field in the CLIENT HEADER group that further controls the type of request(s) that can be processed and the amount of response data that will be returned to the requestor. Valid MESSAGE-KEY values that can be forwarded by the Remote System are “QV”, “QW”, “RAND”, and “FULL”.

1. **“QV” Key** – used only when the MESSAGE-TYPE indicates “NCIC”. No spawning of messages will take place. NCIC Stolen Vehicle and NJ Wanted Person/Vehicle Info requests will be generated along with a NJ DMV Vehicle Inquiry if the vehicle is registered in NJ.

Note: QVs with out of state (non-NJ) vehicle identifiers do not generate NLETS Vehicle registration (RQ) Inquiries.

The “Bundled” message type has to be utilized to automatically spawn an NLETS RQ message if the Vehicle inquiry information relates to an out of state vehicle.

2. **“QW” Key** – used only when the MESSAGE-TYPE indicates “NCIC”. No spawning of messages will take place. NCIC Wanted Person and NJ Wanted Person Info requests will be generated, only.
3. **“RAND” Key** – “RAND” or Random requests are only applicable when using the “Bundled” Message Type. Random requests only relate to New Jersey Registered Vehicle License Plate inquiry requests. With the Random MESSAGE-KEY designation, full detail response data related to “spawned” Inquiries would only be returned to the requestor if a violation(s) have been indicated with the initial request that was generated.

“RAND” requests must be used when an investigating officer does not have “probable cause” to receive all Vehicle, Ownership, and Criminal Justice related information at the time of making the request, as per NJ Supreme Court ruling A-134-97, State of NJ vs. Donis.

E.g. – If an initial Remote Inquiry is processed for a Vehicle with Plate data, additional vehicle ownership response data will be forwarded, automatically, if the initial vehicle response data indicates one (1) or more violations.

Note: Initially, vehicle-only response data will be returned to the requestor when a “RAND” request does not identify DMV violation related or NCIC Hit notification information to support “probable cause”. In this scenario, where no probable cause has been established; associated NJDMV vehicle ownership response data will be replaced by the generic response, “No Hits for the Registered owner”.

4. **“FULL” Key** - “FULL” requests are only available when using the “Bundled” Message Type. This Message Key designation should be used if an investigating officer has probable cause to obtain full information, including vehicle ownership data.

Response Messages –

As the CJIS Server Queue Manager receives request messages from the Remote System Queue Manager, they are handed off to the appropriate application(s) for further processing. NJ CJIS lookups are performed and Inquiries destined for NCIC and/or NLETS are forwarded accordingly.

When corresponding responses are returned to the CJIS system, from NCIC, NJDMV, ..., they will be forwarded asynchronously and separate of any prior response for the same Remote System request.

There will be no response message coordination or concatenation performed by the CJIS Server applications prior to forwarding response(s) back to the Remote System's Queue Manager. By virtue of the Agency's ORI, which is present in all messages, all responses can be returned, systematically, to the designated Remote System.

Response Timing –

Under normal circumstances, responses are generally returned within a sub-second interval following receipt of the request. In some cases where a response includes an embedded image such, as a mugshot, the response may take up to 10 seconds to be returned.

Normal Response Messages –

As mentioned previously, response messages are forwarded to the corresponding requestor as they are received by the CJIS system. The CLIENT HEADER data that was forwarded with the original request will be referenced and affixed to each associated response message prior to transmission back to the designated Remote System.

Unsolicited Response Messages –

Some, NCIC 2000 related, requests may result in a delayed response being returned at a much later time then when a Remote System's initial request had been received. NCIC refers to these as \$. Messages.

For example:

An NCIC Stolen Vehicle (QV) lookup results in a "No Hit" response at the time of the request. Six hours later the vehicle is reported stolen and the proper NCIC Enter Stolen Vehicle record is submitted. The Enter Stolen Vehicle record, being accepted by NCIC, will result in a delayed Stolen Vehicle Hit notification ("\$.H" message) being transmitted, asynchronously, to the CJIS Server.

When a "\$." message is received at the CJIS Server, the Agency ORI in the NCIC message is matched against the CJIS security Data Base to identify the corresponding Remote System's "Reply-to" Queue. The "\$." Message is then forwarded to the designated Remote System.

"\$." Response messages will utilize the same message format as all other CJIS messages, CLIENT HEADER group fields followed by the CLIENT MESSAGE. The CLIENT HEADER fields will be populated, to the extent possible, with the available requesting Agency information. Specific CLIENT HEADER information including Correlation-Id, Client-Id, and Client-Mnemonic will not be provided. The "\$." message will be populated to the CLIENT MESSAGE field in the format it was received from NCIC.

Miscellaneous

System Outage - Large Influx of Response Messages –

With the interfacing of four (4) primary computer systems to initiate a Criminal Justice related Inquiry and process its associated responses there is the potential for a system outage at some level. MQ interface problems should be minimal with the internal handshaking and heartbeat messages that will be regularly taking place.

Non-MQ interfaces such as NCIC may pose a problem in that NJSP has no control over their environment. There is the slight potential that a system outage, related to an external environment, will result in a back up of returned response messages. Once an outage of this type is cleared, the CJIS Server will forward pending responses immediately.

The Remote Systems' message application(s) should have the necessary safeguards implemented to manage the potential influx of a large number of messages into their system under this scenario.

MQ Set Up Batch Jobs –

The NJSP ITB will provide "Set-Up" files that can be used, by the Remote System Administrators, to define the various MQ Objects required for interfacing with the CJIS Development and Production Systems. These jobs will be compatible with Windows NT and Windows 2000.

A separate Set-Up file will be provided for the NJSP Virtual Mainframe, Development, and Production environments.

These files will be ".bat" files that are to be run from a workstation in order to assist the System Administrator in completing the remote MQ installation. They are provided as an "aid". The MQ Series product provides a fully functional Front-End that can be utilized to build the various MQ Objects needed for full implementation of the Interface with the NJSP CJIS environment.

Virtual Mainframe –

To assist in the initial install and implementation of the MQ Series product for the Remote System Clients, the NJSP ITB will develop and provide software that will emulate the CJIS Server MQ mainframe environment. This product commonly referred to as "Virtual Mainframe" is being developed for "32 Bit" Windows platforms and will provide basic MQ Messaging functionality.

Agencies running with the WinNT or Win2000 operating platforms will employ the NJSP's Virtual Mainframe product to conduct their 1st phase of MQ Series testing. This testing will be coordinated and conducted by the Remote Agency's personnel with little or no interaction with the NJSP Information Technology Bureau.

The Virtual Mainframe product will be able to be installed on the Remote System and be used initially to check the MQ Object definitions and test the basic functionality of "Putting" and "Getting" messages.

The objectives of the Virtual Mainframe are the following.

1. Provide basic MQ connectivity testing
2. Support initial testing of various Inquiry requests and message formatting
3. Simulate Large Volume input in support of initial System Load testing
4. Simulate unsolicited message input (NCIC \$.)
5. Provide an initial Implementation Testing Scorecard that will be forwarded to the NJSP prior to scheduling Integrated System testing.

The MQ Object definitions for the Virtual Mainframe will mirror the CJIS Server Development System definitions.

Advantages to utilizing the Virtual Mainframe are:

1. Remote System Administrators will be able to walk through the process of establishing Queue Manager to Queue Manager communications, totally isolated on the Remote System and devoid of any interaction with the NJSP CJIS Server.

2. The Virtual Mainframe will provide the ability to mimic the CJIS Server Queue Manager's basic functionality insuring that connectivity and messaging issues have been resolved before physical connectivity is established with the CJIS Server.
3. A Testing Scorecard will be produced in order to confirm that all NJSP standards have been met and initial testing completed.

Following successful unit testing with the Virtual Mainframe product, the Remote System administrator will submit the Testing Scorecard, for certification, to the NJSP CJIS Control Unit and schedule, with them, implementation of the interface between the Remote System and the CJIS Server Development environment.

MQ / REMOTE SYSTEM INTERFACE REQUIREMENTS

MQ Installation and Standards

Remote System MQ Series Installation –

In order to utilize MQ Series as the connection interface between the NJ Remote Systems and the CJIS Server; MQ must be fully installed on each participating NJ Remote System. Along with the MQ installation each Remote System must have TCP/IP connectivity with the NJSP CJIS system in West Trenton, NJ. Hardware requirements include a Router and Frame Relay Circuit connecting the Remote Agency to the Garden State WAN. Router and Circuit acquisition is to be coordinated with representatives from the NJSP CJIS Control Unit.

Following the MQ product installation on the Remote System, the Remote System Queue Manager and MQ Object definitions that are necessary to support the interface are to be created. Set Up files will be provided by the NJSP Information Technology Bureau to assist in the installation of MQ Objects to the Remote System. After completing the install and MQ Object Definition steps, the Remote MQ product is now ready to establish connection to the CJIS Server.

Before connection to the production CJIS Server can be scheduled; the appropriate initial, and connectivity-related, testing must be conducted.

For WinNT and Win2000 platforms, the NJSP Virtual Mainframe product will be utilized to conduct the initial testing. The Virtual Mainframe software is to be installed on the Remote System. It will interact with a second Queue Manager, which will mimic the CJIS Server Queue Manager (for purposes of this document this Queue Manager will be referred to as the Virtual Queue Manager). Initial testing will have the Remote System Queue Manager interface with the Virtual Queue Manager to confirm MQ connectivity and basic messaging functionality. The Virtual Mainframe software will generate a "Virtual" Scorecard. The scorecard will indicate the various tests that must be completed in the Virtual environment and track testing results. Once all of the tests have been completed successfully, the virtual scorecard is to be forwarded to the NJSP ITB for testing certification. Certification of the Virtual Testing must be completed before CJIS Development System testing can commence.

Agencies employing operating platforms other than WinNT or Win2000 will bypass the Virtual Mainframe testing phase and move directly to the NJSP Development System testing.

Development System testing is to be scheduled with the NJSP ITB. It will involve initial "on-site" testing located at the NJSP Information Technology Bureau location. In the case where Virtual Mainframe testing was performed; the Remote System Administrator is to submit the Virtual Scorecard to the NJSP ITB for certification. Certification will result in the scheduling of an on-site (NJSP ITB location) test session. Development System testing will be scheduled by the Remote System Administrator with the NJSP ITB. Once the on-site testing has been completed successfully

a second series of tests from the Agency's site will be coordinated between the NJSP ITB and the Remote System Administrator.

Final Production Implementation will be coordinated with representatives from the NJSP CJIS Control Unit and Information Technology Bureau.

The following outlines the major components to be addressed during the MQ product installation and connectivity phases. Related reference information that is considered specific to a particular remote Client is included in the Appendix section of this document.

MQ Implementation and Connectivity Steps –

- **Hardware related requirements – (coordinate with NJSP CJIS Control Rep)**
 1. Acquire TCP/IP address
 2. Install workstation and communications router
 3. Install Garden State WAN circuit
- **Install the full MQ product on the Remote Computer System –**
 1. MQ Product Installation defaults are satisfactory for selection, as the install proceeds.
- **Define Remote System Local Queue Manager –**
 1. Queue Manager must be named the Agency's Main ORI (e.g. YourNJORI)
- **Define Remote System Local Queues needed for the CJIS Server MQ Interface -**

Various local queues are necessary to be defined, adhering to NJSP naming conventions, in order to successfully interface with CJIS Server's MQ Queue Manager.

Local Queues needed for the CJIS Server MQ interface are as follows.

1. **Response, "Reply To" Queue** – Local queue defined to receive response messages from the CJIS Server mainframe Queue Manager.
2. **Transmit, "XMIT", Queue** – Local queue used to trigger the transmission of a Remote System Request message to the CJIS Server Queue Manager.
3. **Dead Letter Queue** – Local queue that the Queue Manager will utilize to hold undeliverable or obsolete (time stamp expiration) messages. Created during Queue Manager Installation. Do not need to do anything further other than to note the Queue Name for reference.

Note: Queue Depth for the Dead Letter Queue should be monitored regularly to avoid a "max-message" condition, which in turn would result in an MQ related outage.

- **Define Remote System Sender and Receiver Channels –**
 1. MQ Channels or Message Channel Agents are the MQ Objects that facilitate communications between two MQ Queue Managers on different computer systems. MQ communications between separate computer systems (System 1 and System 2) cannot be accomplished without Channels.
 2. The Sender/Receiver Channel relationship is similar to the Sockets TCP/IP Sender /Listener communications environment.
 3. Incoming requests, from the Remote System, need the Sender Channel connected to the corresponding CJIS Server Receiver Channel. In order for Remote Systems to receive responses; the CJIS Server Sender Channel must be connected to the corresponding Remote System Receiver channel.
 4. Sender (System 1) / Receiver (System 2) "pairs" are to be named in accordance with CJIS standards.

Note: See Appendix for **MQ/Remote System Installation Parameters**.

5. **Heartbeat option** - will be utilized with channels associated with the MQ/CJIS Server interface. This is the automated handshake shared between connected Channels for "Polling" to ensure that the Channels are "Active". The same Heartbeat value is to be used for each Send/Receive Channel Pair. See Appendix for **MQ/Remote System Installation Parameters**.

Note: The Heartbeat setting must be less than the Disconnect setting.
See Timeout Disconnect.

6. **Timeout Disconnect** - will be utilized with Sender channels associated with the MQ/CJIS Server interface. This will disconnect the Channel in the event that no messages have been received, for forwarding, within the designated time setting.
When a Channel is disconnected due to timing out; it will be restarted by MQ when a message has been placed, for delivery, into the Channel's Transmit Queue.
The same Disconnect value is to be used for Remote Systems and CJIS Server Sender Channels unless designated otherwise.
MQ recommendations for Disconnect settings are that they are at least three (3) times the value of the Sender Channel's Heartbeat setting.

Note: See Appendix for **MQ/Remote System Installation Parameters**.

- **Define Remote Queue Reference – (Requests)**

The CJIS Server Queue that will receive the Remote System's request messages must be defined to the Remote System's Queue Manager. All inquiry requests will be "Put" to this Queue, by the Remote System.

Note: MQ "Put" commands to the NJSP Request Queue must reference both the CJIS Server Queue Manager Name and the CJIS Server Request Queue Name.

**See the Appendix for installation default parameter overrides and MQ
Object Naming Standards**

**MQ's Case Sensitivity and the fact that the CJIS Server
interface is a mainframe interface requires that all Object
definitions be made in Upper Case**

Transmission Format and Requirements

NJ Remote Systems must conform to MQ and NJSP standards in order to successfully transmit messages between the two (2) environments.

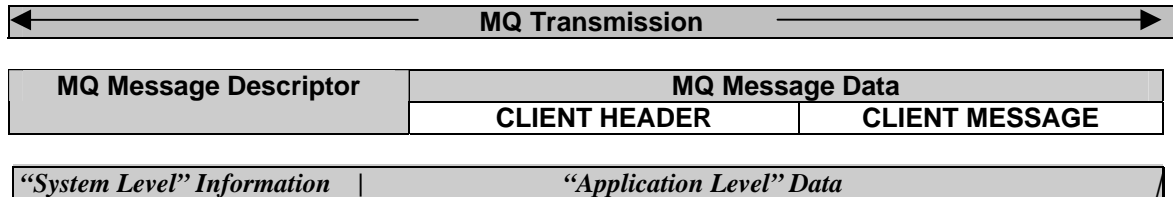
Transmissions between the Remote System and CJIS Server will utilize ASCII formatting with the exception of images. Image data will be transmitted in Binary format, embedded within the text Response message.

Note: The means to determine the position of Image data and its corresponding length can be found further in this document.

MQ Standards -

MQ utilizes a message format reflecting two (2) groups or sections. The 1st is the Message Descriptor Area (MQMD). The MQMD holds “system level” information that is referenced by the Queue Managers to perform the necessary MQ functionality for the associated message.

The 2nd area that makes up the MQ Message Transmission Data String is the MQ Message Data Area. This area is populated with the application message data. The associated Queue Manager does not reference anything in this portion of the MQ Transmission Data String.



MQ Message Descriptor –

MQ Message Descriptor (MQMD) fields are referenced during MQ Queue Manager Operations. MQMD fields are initialized by the associated application prior to execution (API Call). MQ will initialize specific MQMD and reserved fields in conjunction with a “Put” operation. These fields can be interrogated by the associated CJIS Server applications to make various determinations such as message priority, message persistence, program logic decisions, ..., .

MQ API Calls, such as Connection Opens and Queue Opens, Gets, and Puts will be issued by the Remote System and CJIS Server applications to affect the transmission and processing of Remote/CJIS request and response messages. MQ and NJSP Interface Standards require that certain MQMD values be initialized regarding MQ / Remote System / CJIS Server message transmission functions. These requirements are listed further in this section. Other MQMD values will also need to be set that relate to MQ functionality, in general. MQ Series reference information, relating to the MQ Message Descriptor fields and their use, can be found in the MQ Series Help Facility.

NJSP MQ Interface Guidelines require the following steps be taken when “Putting” a Request message to the CJIS Server Request Queue (LPPXGNTMP.MQCLIENT.REQUEST).

- **“Reply To” Queue Manager Name** – the Remote System’s Queue Manager Name must be populated to the corresponding field in the MQ Message Descriptor area.
e.g. – YourNJORI
- **“Reply To” Queue Name** – the Remote System’s Response (“Reply To”) Queue must also be specified in the corresponding MQ Message Descriptor field.
e.g. – LPPXGNTMP.YourNJORI.RESPONSE

MQ Message Data –

The MQ-Message-Data field holds the CLIENT HEADER followed by the application level CLIENT MESSAGE (Request or Response message).

The sending or receiving Queue Managers will not interrogate data found in this area.

The MQ/Remote System interface standards separate the MQ-Message-Data area into two (2) sections. The 1st section, CLIENT HEADER, is a fixed length area that holds fields that can be interrogated at the application level to dictate or determine subsequent processing requirements. Section 2, CLIENT MESSAGE, holds the request or response message.

The NJSP Information Technology Bureau has developed specific formats for both the request and response messages.

Note: A complete list of Request formats and their associated responses can be found in the Appendix.

CLIENT HEADER –

The Remote System, prior to forwarding to the CJIS Server Application, will append this header to all requests.

1. Field Name: MESSAGE-LENGTH

Descr: Numeric field. Reflects the full length of the message data (CLIENT MESSAGE, ref: **MQ Transmission** diagram on previous page).

Field Length: 9 characters.

Note: Length calculation is to include only “**MQ Transmission** CLIENT MESSAGE” length.

e.g. – Total CLIENT MESSAGE length = 3046 characters, value - 000003046

2. Field Name: HEADER-VERSION

Descr: Alphanumeric field. Vendor initializes to HDR/1.0

Field Length: 10 characters.

3. Field Name: MESSAGE-TYPE

Descr: Alphanumeric field. Identifies the incoming Request as either a Bundled request or single NCIC request. Vendor initializes to “BNDLE” or “NCIC”.

Field Length: 5 characters.

- **“BNDLE”** – Incoming request data will be interpreted by the CJIS Server application and spawn (trigger) multiple requests.
- **“NCIC”** - Incoming request data is an NCIC request, only. No spawning of multiple NCIC requests is performed.

Note: As of 1/23/2003, responses from NJ’s Administrative Office of the Courts (AOC) Automated Traffic Summons (ATS) system will be returned as separate response messages with a Message Type of “AOC”. The AOC/ATS responses will only be generated from NJSP spawned AOC inquiries related to Bundled Inquiries specifying either a NJ Plate(LIC) or NJ Driver License Number (OLN) request.

4. Field Name: MESSAGE-KEY

Descr: Alphanumeric field. Identifies the request level for the Request message. Vendor initializes to RAND, FULL, QV, or QW.

Field Length – 5 characters.

- **“RAND”** - Used for a Bundled request where there is no probable cause to initiate a Full request. (**NJ License Plate lookups, only**).
- **“FULL”** – The Requestor has established “Probable Cause” and has decided to utilize the “Full” capabilities of the Bundled request message.
- **“QV”** – Specific request for the FBI’s NCIC Stolen Vehicle lookup.
- **“QW”** – Specific request for the FBI’s NCIC Wanted Person lookup.

5. Field Name: SEGMENT-NUMBER

Descr: Numeric field. Future use. Vendors initialize to **Zeroes**.

Field Length: 5 characters.

6. Field Name: LAST-SEGMENT-IND

Descr: Alphanumeric field. Future use. Vendors initialize to “Y”.

Accepted values – spaces, “Y” or “N”.

Field Length: 1 character.

7. Field Name: RECORD-TYPE

Descr: Numeric field. Future use. Vendors initialize to Zeroes.

Field Length: 5 characters.

8. Field Name: RECORD-NUMBER

Descr: Numeric field. Future use. Vendors initialize to Zeroes.

Field Length: 5 characters.

9. Field Name: PRIORITY

Descr: Alphanumeric field. Vendors init to “N” on all requests.

CJIS Server applications will set this to “Y”, for a Remote System Response, if a “Hit” is determined for the corresponding Request message (e.g. - Vehicle Inquiry request returns an unregistered vehicle, registered driver discrepancy, ...).

Accepted values – “Y” or “N”.

Field Length: 1 character.

10. Field Name: CORRELATION-ID

Descr: Alphanumeric field. If not being utilized Vendors initialize to spaces. Vendors should initialize this field to their unique, internal, request message identifier, when applicable. The value will remain unaltered and maintained for subsequent reference on the CJIS Server. Corresponding Responses will have the matching Request message’s CLIENT HEADER attached to the response prior to transmission back to the Remote System. The unaltered Correlation Id will be included and can subsequently be used by the Remote System to connect related response messages.

Field Length: 10 characters.

Special Note:

- Unsolicited NCIC Hit Notifications (\$.H messages) will have the original inquiry requestor’s (QV, QW, ...) CLIENT HEADER appended to the “\$.H” response and consequently reflect the original request’s correlation id as it was populated by the requesting Agency’s system.
- CJIS Server applications will only replicate the value in the Correlation Id. as it is passed from the Remote Agency System.

11. Field Name: CLIENT-ID

Descr: Alphanumeric field. Used to identify the Client (individual), from the remote system initiating the request.

Field Length: 10 characters.

Special Note:

- The Client Id must be a unique identifier from the respective Remote System.
- Uniqueness must be guaranteed to ensure that subsequent NJSP Audit requests can be met.
- The format of the assigned remote Client Id. is not controlled by NJSP. It can be any format providing that it is assigned uniquely to each authorized individual at the Remote Site.
- It should not be re-used, unless the appropriate archiving is performed at the Remote Site, in the event that an individual discontinues affiliation.

- NJSP will log the Client Id for possible cross-referencing with the Remote System to identify a specific requestor and other related information.
- e.g. – NJSP utilizes the Operator's ACF Logon Id.

12. Field Name: CLIENT-MNEMONIC

Descr: Alphanumeric field. Used to identify the Client's (individual) device id., from the remote system initiating the request.

Field Length: 10 characters.

Special Note:

- The Client Mnemonic must be a unique device identifier from the respective Remote System.
- Uniqueness must be guaranteed to ensure that subsequent NJSP Audit requests can be met.
- The format of the assigned remote Client Mnemonics is not controlled by NJSP. It can be any format providing that it is assigned uniquely at a given time to participating individuals at the Remote Site.
- NJSP will log the Client Mnemonic for possible cross-referencing with the Remote System to identify a specific requestor and other related information.
- e.g. – NJSP utilizes the Requestor's ORI (Originating Agency Identifier).

Note: The unique combination of Client Id and Client Mnemonic is intended to provide NJSP the auditing capability to identify a specific Criminal Justice operator making a request and the exact device from which the request was made.

CLIENT MESSAGE –

The Remote System, prior to forwarding a message to the CJIS Server Application, will place the Formatted Request message into this area. CJIS Server Response messages will correspondingly be placed into this area prior to transmission back to the requesting Remote System.

The samples below are intended to provide examples of Request Message formatting. There are additional fields that relate to the CLIENT HEADER data area. The ones depicted relate specifically to how the request is interpreted and the level of response data that would be returned.

Request Messages –

1. "Bundled" Vehicle (License Plate) Request

MQ Message Data	
CLIENT HEADER	CLIENT MESSAGE
MSG-LGH ... MESSAGE-TYPE – 'BNDLE' MESSAGE-KEY – 'RAND' ...	ORI/NJ0110200.LIC/TEST1.[LIS/NJ or Blank]

2. "NCIC" Stolen Vehicle Inquiry

MQ Message Data	
CLIENT HEADER	CLIENT MESSAGE
MSG-LGH ... MESSAGE-TYPE – 'NCIC' MESSAGE-KEY – 'QV' ...	QV.NJ0110200.LIC/TEST1.[LIS/STATE CODE or Blank]

A complete list of Remote System Request Message formats can be found in the Appendix Section of this document.

Response Messages –

Response messages will be returned to the requestor utilizing the same MQ Transmission format that is utilized for Request Messages.

MQMD fields will be initialized, accordingly, prior to the CJIS Server application issuing the Put Request to the Requestor's "Reply-To" Queue.

The Response message CLIENT HEADER will be populated with the prior Request message CLIENT HEADER. During this process, the CLIENT HEADER field, Message-Type, will be altered to reflect the data source for the response message. This provides the ability for the requestor's application to easily determine the response message source. The following codes are substituted for the original request message's CLIENT HEADER Message-Type.

Response Message Data Source	Updated Response Message Client Header Message Key	Response Type
NCIC 2000	NCIC	Immediate NCIC responses
NCIC \$.H	BNDLE	Delayed "\$." Hit responses
NJ DMV	DMV	NJ Motor Vehicle responses
NJ Wanted Persons	NJWP	NJ Wanted Person responses
NLETS	NLETS	Non-NJ Vehicle responses
Admin. Office of Courts	(*) AOC	ATS and other NJ AOC related data

Note: (*) - The AOC interface is an enhancement that was implemented on January 23, 2003. The AOC Interface relates only to Automated Traffic Summons data (ATS) directly related to Bundled requests that identified NJ License Plate (LIC) or NJ Driver License Number (OLN) search criteria. The AOC responses are a result of a spawned inquiry(s) forwarded by the NJSP CJIS 2000 application when one of the 2 previously identified Bundled requests are received. Native AOC/ATS requests are not supported.

The CLIENT MESSAGE area will be populated with the response message in the format received from each data source. A separate message will be returned to the requestor for each response (NCIC, NJDMV, ...) relative to the original request.

In the case of an unsolicited message where there is no associated request message CLIENT HEADER information available; the CLIENT HEADER must still precede the CLIENT MESSAGE in the transmission. In this scenario the corresponding CLIENT HEADER fields are populated with the Default values and the Requesting Agency information available at that time. Specific Client fields such as Correlation Id are not available for these types of messages.

Once the CLIENT HEADER and CLIENT MESSAGE areas have been populated; the response message will then be handed off to the CJIS Queue Manager for delivery to the designated Agency.

Image Response Data –

The CJIS Server will transmit Image response data, to the requesting Agency Remote System, in Binary data format.

The NCIC Inquiry MFC Field, IND/, is used to indicate for the FBI's NCIC 2000 system whether the requestor desires or is capable of receiving and processing mug shot and fingerprint binary image data in a response message.

Note: "IND/" is an optional field in NCIC 2000 Inquiry requests with accepted one (1) character values as follows.

- "Y" - indicates binary image response data can be processed and is requested if available.
- "N" – indicates binary image response data cannot be processed and is not to be included in the NCIC response.

If the optional "IND/" MFC is not included in the Client's Request message the FBI's NCIC 2000 system default is IND/N. No binary image data will be forwarded to the Client. However, if an image is on file with the FBI; the Image's NIC number (IMN/) and Image Type (IMT) are forwarded with the text response.

If the "IND/" MFC is to be included in the Client's Request Message it is to be inserted as the last MFC in the Request Message (i.e. IND/Y. or IND/N.)

Example: NCIC 2000 Wanted Person Inquiry

QW.NJ1234567.NAM/TESTER,DAVE.DOB/19640828.IND/Y.

Image presence can be detected along with the starting position and length of the embedded image in the following manner.

The value "IMR/" followed a 1 character code (identifies the type of image in the Response Message data string – M, mug shot; F, Fingerprint) indicates that an image is present in the response.

Note: IMR/M – indicates that binary image data is present and the image is a Mugshot. Positional fields, 3 in number and each 47 characters, immediately follow the "IMR/M" value.

- Upper Top Text
- Upper Bottom Text
- Lower Top Text

The Image Length field (5 display characters) immediately follows the Positional fields. The image itself (binary representation) follows the 5-character Image Length field. On average an image will reflect a size of 8K. Images are Binary Data embedded within the text message. Related Control Fields and their data values are text (IMR, UTT, ...) Images are JPEG grayscale, 256 X 256 pixels. Multiple images can be forwarded in the same response message

A complete list, of Remote System Response Messages, is outlined in the Response Message Matrix that can be found in the Appendix Section of this document.

Refer to the NCIC 2000 Reference Guides for complete detail on Image transmissions and the associated control fields that are utilized in response messages.

SYSTEMS AND INTEGRATED TESTING PLANS

Testing will be conducted in 2 separate phases 1) Initial Stand-Alone testing and 2) Integrated testing.

Initial Stand-Alone Testing – Virtual Mainframe (WinNT and Win2000)

The Virtual Mainframe product, to be provided by the NJSP Information Technology Bureau, will be used initially to test the Remote System's MQ Product installation and general communications between Queue Managers.

As mentioned earlier, the Virtual Mainframe and the associated testing is designed to be conducted solely by the Remote System Administrator and Developers without having to physically connect to the NJSP MQ Development environment or involve NJSP ITB personnel.

Note: For Virtual Mainframe installation or testing problems the Project's Primary Contact, as identified in this document, is to be notified.

Initial testing will not involve connecting to the CJIS Development System. Generic responses will be returned from the Virtual Mainframe, which will be sufficient to ensure that:

- MQ connections are being made
- Communications between the two (2) environments are successful and meet NJSP standards.
- Basic message formatting standards are being met for both the CLIENT HEADER and CLIENT MESSAGE areas.

Virtual test records will be identified in order for the Remote System Administrators to be able to view expected results and make sure that the returned responses are being handled properly. Inquiry testing is to include both designated test records as well as other inquiries that would be expected to return "no Hit" responses.

The VM Scorecard will track confirmation, of completed Virtual Mainframe testing. The completed scorecard will be generated and provided to the NJSP CJIS Control Unit and ITB representatives as a means of confirming successful and complete VM Testing. It will also be a prerequisite for moving on to the Integrated Testing phase.

Upon successful completion of the Virtual Mainframe testing the next testing phase will involve connecting to the CJIS Development environment.

Integrated Testing – CJIS Server Connectivity

Connecting to the NJSP Development system will be the final testing phase. This will be coordinated with the NJSP Information Technology Bureau and will include initial "on-site" testing at the NJSP ITB location followed by remote testing from the corresponding Agency's location.

The appropriate Queue and Channel references must be defined on both the Remote and NJSP Development systems as covered previously in this requirements document.

The Remote System Objects including, Queue Manager Name, 'Reply To' Queue, and Channels along with the Remote System's ORI and IP address must be properly referenced on the NJSP Development system. The NJSP Development IP address and like MQ Objects (Appendix - MQ / Remote System Installation Parameters) must be defined accordingly on the Remote System.

Certification of the Virtual Mainframe Scorecard, for Windows NT and Windows 2000 Clients, and establishing the initial connection with the NJSP Development system will be coordinated by the Remote System Administrator with the Project's NJSP Primary Contact and the NJSP/OIT Systems Support Contact who are identified at the beginning of this document.

Remote Development System testing coordination will be the responsibility of the Remote System Administrator. The appropriate NJSP contact should be made in the event of perceived system-related problems. As noted previously, project-related contacts should always be initiated with the Project's NJSP Primary Contact person unless otherwise instructed.

Testing must include the successful transmission of all MQ message formats as identified in the MQ Request Message Formats document found in this document's Appendix. Testing with the NJSP Development environment will involve connecting to a NCIC 2000 Test Data Base managed at the FBI's West Virginia Data Center. Data from NJ Test Data Bases will also be accessed providing a Test Environment that closely matches the CJIS Server Production environment.

Quality Assurance monitoring will be coordinated between the Remote System Administrators and the NJSP Information Technology Bureau to ensure that all Testing Criteria has been met prior to Production Implementation.

Test records that relate to all the Criminal Justice Data sources will be provided. A list can be found in the Appendix.

For further details regarding the different stages of testing refer to the Remote/MQ Interface Test Plan Schedule located further in this document.

IMPLEMENTATION PLANNING

The NJSP CJIS Control Unit is currently in the process of upgrading their network infrastructure. The NJSP Information Technology Bureau will continue moving in the direction of TCP/IP supported communications including the older Sockets interface and the MQ interface.

The NJSP CJIS Control Unit is coordinating remote Systems integration to the MQ interface. All inquiries concerning the MQ / Remote System interface are to be directed to the CJIS Control Unit Contact person identified previously in this document.

MQ/REMOTE INTERFACE TEST PLAN

Initial Stand-Alone Testing – Virtual Mainframe

The purpose of this phase is to test the Client's basic MQ connectivity and common NCIC 2000 message formatting. Virtual Mainframe testing is to be conducted at the Client's site, by the NJ Client and/or vendor with no connectivity to the NJSP MQ Interface. The Client's NCIC 2000 message Front End must be enhanced to interface with MQ Series in order to "Put" their Request messages to the NJSP Virtual Mainframe Request Queue and to "Get" Response messages

forwarded from the NJSP Virtual Mainframe application (Client's Response Queue). Clients supported by either Windows NT or Windows 2000 will employ Virtual Mainframe testing as their initial testing requirement.

A test record matrix has been provided in the Appendix section of this document. It outlines Inquiry data that can be employed for Virtual Mainframe as well as other data for the Integrated Testing phase. Expected results are also indicated in this document. Other client inquiry data (i.e. your own NJ License Plate number, ...) can be used during the Virtual Mainframe testing however the expected results in this case would obviously return "Not Hit" responses.

The four (4) NCIC 2000 message formats, NCIC QV, NCIC QW, Bundle Full, Bundle Random, are to be tested successfully. Test results will be tracked, by the NJSP Virtual Mainframe Application, and will be able to be displayed at any time during this process. Following successful completion of all testing the Virtual Mainframe Scorecard can be printed and is to be forwarded to the NJSP ITB MQ Interface Contact for certification and subsequent approval to proceed to the next testing phase.

Clients employing other operating platforms, such as UNIX, Solaris, AS400, OS390, ..., will not be able to utilize the NJSP Virtual Mainframe Test phase and will proceed with the Integrated Testing phase defined further in this section. Agencies not employing the Virtual Mainframe testing phase are to contact the NJSP Information Technology Bureau MQ Interface Contact to coordinate their Integrated Testing requirements.

- 1. Install Full MQ Series product on Remote System**

- 2. Define Remote Queue Mgr. & MQ Objects**

NJSP Information Technology Bureau (ITB) "Set Up" files will be provided to define the associated MQ objects for the Remote System and Virtual Mainframe. MQ Series also has a Set Up Wizard, which can be utilized to define the Remote System and Virtual Mainframe MQ Objects.

In using either the "Set Up" Files or MQ Set Up Wizard, the associated MQ Objects are to be defined once the corresponding Queue Managers have been created.

- 3. Define Virtual Queue Mgr. & MQ Objects**

See Define Remote Queue Mgr. ... above.

- 4. Install NJSP provided Virtual Mainframe**

- 5. Complete Basic Communications & Message Testing**

A full range of testing scenarios must be completed. Each of the 4 types of NCIC 2000 Inquiry messages must be tested successfully. They are NCIC QV, NCIC QW, Bundled Full, and Bundled Random.

- 6. Testing Data**

A list of test records and expected results will be provided with the Virtual Mainframe application software.

- 7. Generate Virtual Scorecard**

The Virtual Mainframe software will automatically post to the Virtual Scorecard during Remote/Virtual testing. The Scorecard will be able to be referenced during this testing period to view testing completed, testing remaining, and the status for each designated test.

Once all testing has been completed successfully; the scorecard must be forwarded to the NJSP Information Technology Bureau (ITB) for certification.

If the Virtual Mainframe software or test record reference document is not available at the time of the distribution of this document or for any other related questions:

- **Please contact the NJSP ITB MQ Primary Contact person identified at the front to the MQ/Remote Systems Interface requirements Guidelines document.**
- **Proceed to the Integrated Testing Phase. (NJSP Connectivity required)**

Integrated Testing – CJIS Server (Development)

The purpose of this phase is the following:

1. To test the Client's basic MQ connectivity in respect to the NJSP MQ Series mainframe Development system Interface
2. Continue with standard NCIC 2000 message formatting testing
3. Provide additional NCIC 2000 Inquiry format testing for other NCIC Inquiries (NCIC QA (Query Article, QB (Query Boat), ...)
4. Provide for Image Response testing.

Integrated Testing is to be conducted initially "on-site" at the NJSP, when designated by the NJSP Technology Bureau and subsequently from the Client's location under the direction of the particular NJ CJ Agency representative and their software vendor. The Agency's TAC or Administrative Officer is to schedule the Integrated Testing phase with the NJSP MQ Interface coordinator. The Client's NCIC 2000 message Front End must be enhanced to interface with MQ Series in order to "Put" their Request messages to the NJSP Development system Request Queue and to "Get" Response messages forwarded from the NJSP Virtual Mainframe application (Client's Response Queue). Clients not supported by either Windows NT or Windows 2000 will employ the Integrated Testing phase as their initial testing requirement.

A test record matrix has been provided in the Appendix section of this document. It outlines Inquiry data that can be employed for NJSP Development System testing including inquiry data associated with an image response. Expected results are also indicated in this document. Other client inquiry data (i.e. your own NJ License Plate number, ...) can be used during the Integrated testing phase however the expected results, unless a coincidence in this case, would obviously return "Not Hit" responses.

All NCIC 2000 message formats are to be tested successfully. The NJSP ITB MQ Interface Coordinator will review and approve test results prior to certification for NJSP Production system (CJIS) Implementation.

1. Virtual Scorecard Certification

Initiation of the Integrated Testing Phase will not be permitted until the NJSP ITB has certified the Agency's Virtual Scorecard for Agencies operating with either Windows NT or Windows 2000.

2. Testing Data

A list of test records and expected results is included in the MQ / Remote System Interface Guidelines document in the Appendix.

Test Record Key data is provided along with specific notations and the expected responses that would be received with each associated request.

The designated testing records are to be utilized for both the "on-site" and subsequent Remote testing phases.

3. Coordinate "On-Site" Testing with NJSP Primary Contact

Initial Integrated Testing will be performed at the NJSP ITB location unless otherwise directed by the NJSP CJIS Control Unit and Information Technology Bureau.

Testing will involve the connection to the NJSP Development System from a secured NJSP location. The Remote Agency will be required to provide their hardware for testing and to have their “Front-End” software and Full MQ Series product properly installed, defined, and operational.

4. Remote System Object Definitions – Constant

The Remote System’s MQ Object definitions will remain constant between the Objects originally set up for the Virtual Mainframe testing and the NJSP Development System testing.

Note: No changes should be necessary other than the Remote System’s reference to the NJSP MQ Interface IP Address, which is needed to establish the connection between the two (2) systems.

NJSP ITB Set Up files will provided to define the associated MQ objects. MQ Series also has a Set Up Wizard, which can be utilized to define the Remote System MQ Objects.

5. CJIS Server Object references for the Remote System

Remote System references relating the Agency’s “Reply-To” Queue must be defined on the NJSP Development system.

This will be coordinated with the NJSP ITB.

The Agency’s “Reply-To” Queue must be defined to the NJSP Development system Queue Manager.

6. CJIS Server Access Authorization Entries

The Agency’s ORI (Queue Manager Name) and IP Address must also be referenced in the NJSP Development system’s System and Application Security Databases.

This will be coordinated with the NJSP ITB.

7. Coordinate “Remote” Testing with NJSP Primary Contact

Following successful completion of the NJSP “on-site” testing, the Remote System Administrator will be required to set up testing from the Agency’s location. The same basic testing scenarios will be followed for testing from the Agency’s location.

Note: CJIS Server updates, related to the Remote Systems’ Interface must be coordinated with the NJSP ITB Primary Contact and the CJIS Control Unit prior to Remote Development system testing being initiated.

Implementation – CJIS Server (Production)

1. Coordinate with NJSP Primary Contact

Successful completion of the Development testing phases will certify the Remote Agency for implementation to the NJSP CJIS Production environment.

Coordination and scheduling of CJIS implementation will be conducted between the Remote System Administrator and the NJSP CJIS Control Unit and Information Technology Bureau primary contacts.

2. Remote System Object Definitions – Changed – CJIS Queue Manager name references

The Remote System's MQ Object definitions will be required to be renamed for any Object referencing the CJIS Queue Manager. NJSP System standards require that the corresponding CJIS Queue Managers on the Development and Production systems be named differently.

Consequently any MQ Object defined to the Remote System that references the name of the CJIS Queue Manager will need its name changed for resolution with the CJIS Production Queue Manager.

This standard will affect the Remote Systems Object definitions for its Send and Receive Channels and corresponding transmit Queues. Additionally the Remote application that "PUTS" a Request message to the CJIS Server "Request" Queue (LPPXGNTP.MQCLIENT.REQUEST) must also be modified to reflect the MQ Message Descriptor (MQMD) reference for the Remote Queue Manager on the "Put" command.

3. CJIS Server Object references for the Remote System

Remote System references relating the Agency's "Reply-To" Queue must be defined on the NJSP Production system.

This will be coordinated with the NJSP ITB.

The Agency's "Reply-To" Queue must be defined to the NJSP Production system (CJIS) Queue Manager.

4. CJIS Server Access Authorization Entries

The Agency's ORI (Queue Manager Name) and IP Address must be referenced in the NJSP Production system's System and Application Security Databases.

This will be coordinated with the NJSP ITB.

5. Post Implementation Quality Assurance Testing

Production implementation related entries and requirements are to be acknowledged by the NJSP CJIS Control Unit and Information Technology Bureau.

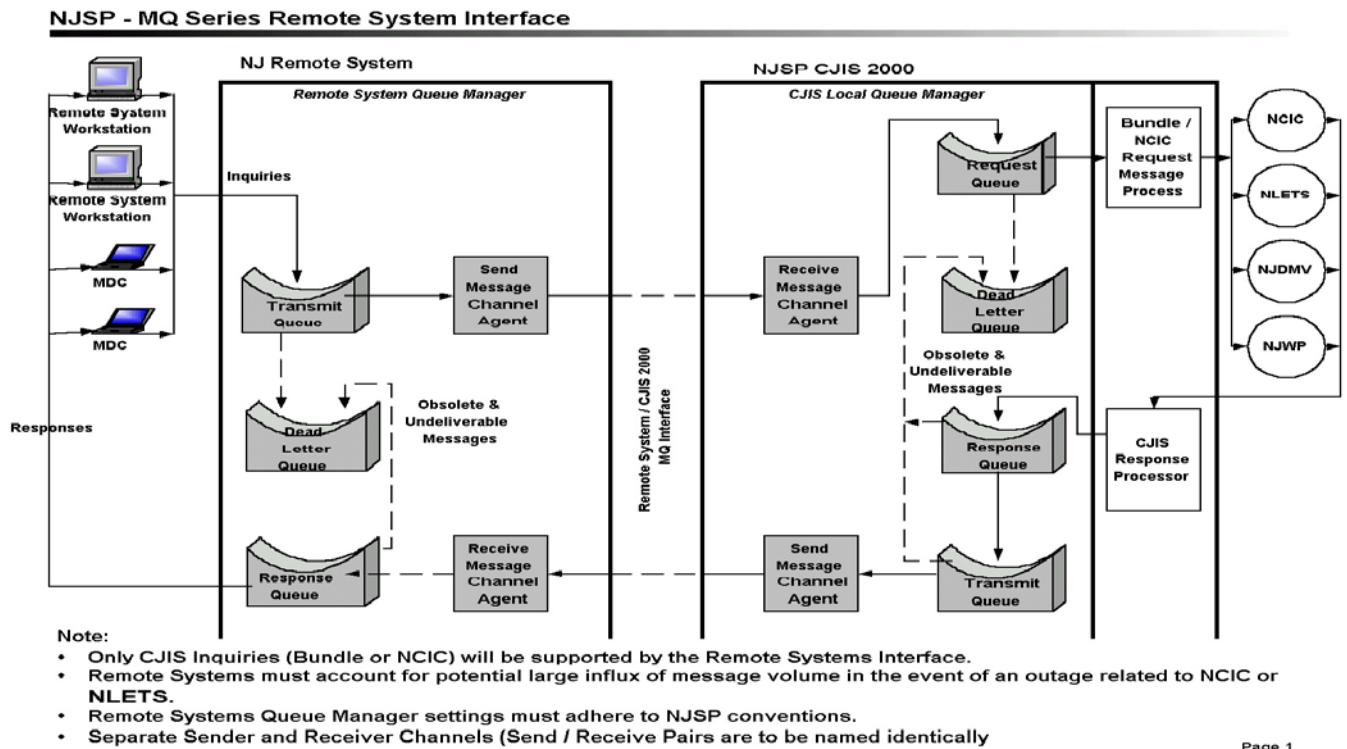
Following this confirmation, the Remote Agency should be fully capable to transmit Requests to the CJIS Server and receive the corresponding Response messages.

Adequate testing is to be performed by the Remote System Administrator and any problems reported to the NJSP ITB Primary Contact.

APPENDIX

System Diagrams

MQ/Remote System Interface Diagram

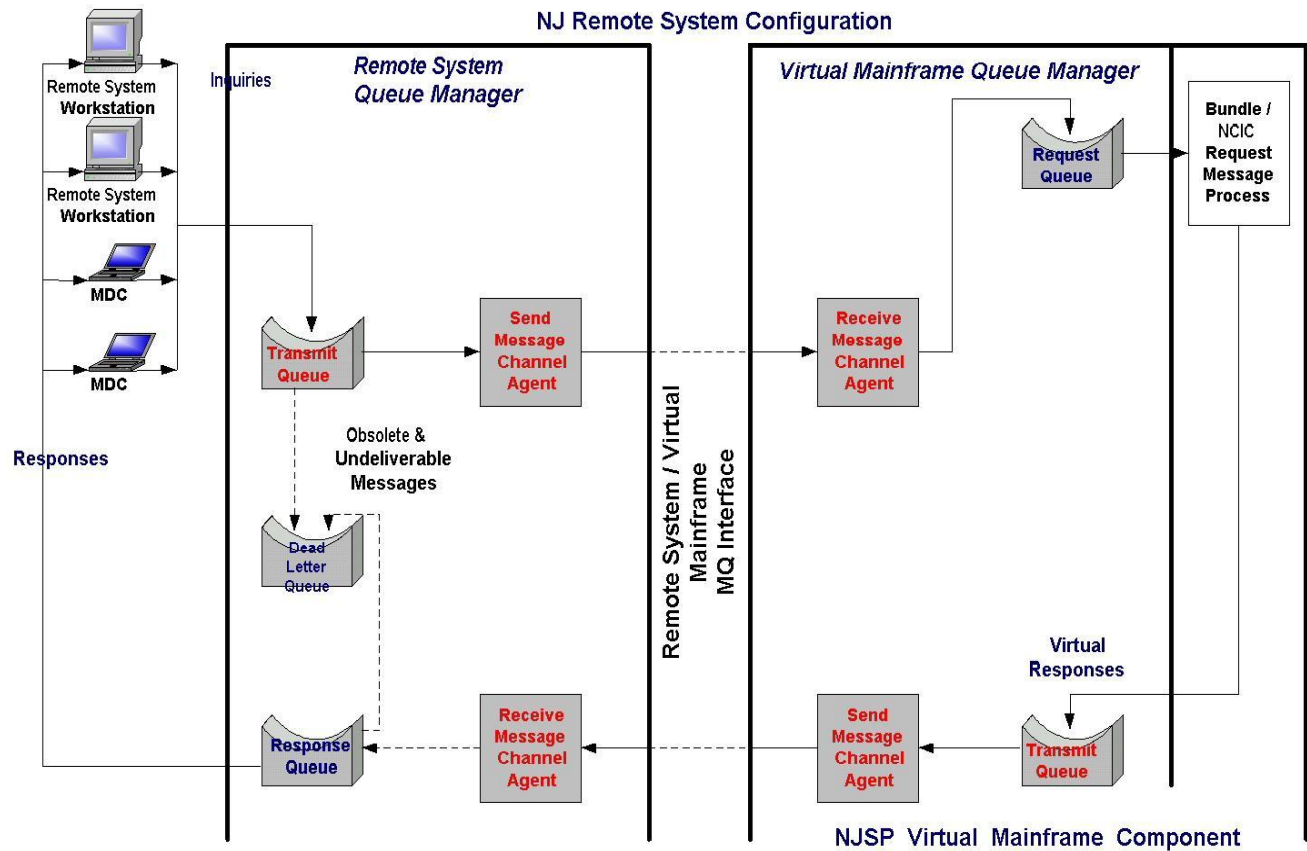


Page 1

H:\APPDATA1\Project - MQ Remote Systems\Administrative\MQSeriesRemoteSystemInterface.vsd

MQ Virtual Mainframe Diagram

NJSP - MQ Series Remote System Virtual Mainframe Interface



MQ Installation Parameters and Standards

See Separate document included:

MQ Series CJIS 2000/Remote System Interface
MQ Remote System Installation Parameters

Client Header Fields

CLIENT HEADER and CLIENT MESSAGE Format

Field Name	Length	Format	Notes
CLIENT HEADER			
Message Length	9	Display Numeric	Length of the CLIENT MESSAGE
Header Version	10	Alphanumeric	Initialize to "HDR/1.0"
Message Type	5	Alphanumeric	"BNDLE" or "NCIC"
Message Key	5	Alphanumeric	"FULL", "RAND", "QV", "QW", "QA", "QB", or "QG"
Segment Number	5	Display Numeric	Future Use, only. Initialize to zeroes.
Last Segment Indicator	1	Alphanumeric	"Y" or "N"
Record Type	5	Alphanumeric	Future Use, only. Initialize to zeroes.
Record Number	5	Display Numeric	Future Use, only. Initialize to zeroes.
Priority	1	Alphanumeric	Initialize Request Messages to "N". CJIS Server will set to "Y" on HIT Responses.
Correlation Id	10	Alphanumeric	Used by Remote System to match Request and Response(s)
Client Id	10	Alphanumeric	User Id. requesting Client
Client Mnemonic	10	Alphanumeric	Device Id. requesting Client
CLIENT MESSAGE			
Message	32K	Alphanumeric (*) Binary	Formatted Request or Response * - Embedded images will be preceded by Image Indicators designated in text format followed by the Image, itself, which will be Binary data.

Request Message Formats

MQ Request Message Formats

Msg Type	Msg Key	Message Format
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/M.}{RAC/W.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.OLN/N01234567890123.{SEX/.}{RAC/.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.SOC/123456789.{SEX/.}{RAC/.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/.}{RAC/.}OLN/N01234567890123.
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/.}{RAC/.}SOC/123456789.
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/.}{RAC/.}OLN/N01234567890123.SOC/123456789.
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.{SEX/.}{RAC/.}OLN/AA12345.SOC/123456789.
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.LIC/TESTLIC.{LIS/NJ OR BLANK.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.LIC/TESTLIC.{LIS/NON-NJ.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/.}{RAC/.}OLN/N01234567890123.SOC/123456789.LIC/TESTLIC.{LIS/NJ.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.{SEX/.}{RAC/.}OLN/N01234567890123.SOC/123456789.LIC/TESTLIC.{LIS/NJ.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.VIN/1GT34567.{VMA/FORD.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/.}{RAC/.}VIN/1GT3456.{VMA/.}
NCIC	QW	QW.NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/.}{RAC/.}OLN/N01234567890123.SOC/123456789.LIC/TESTLIC.{LIS/NJ.}VIN/1GT3456.{VMA/.}
NCIC	QV	QV.NJNSPXXXX.LIC/TESTLIC.{LIS/NON-NJ.}
NCIC	QV	QV.NJNSPXXXX.LIC/TESTLIC.{LIS/NJ.OR BLANK}
NCIC	QV	QV.NJNSPXXXX.VIN/1GT3456.{VMA/.}
NCIC	QV	QV.NJNSPXXXX.LIC/TESTLIC.LIS/NON-NJ.VIN/1GT3456.{VMA/.}
NCIC	QV	QV.NJNSPXXXX.LIC/TESTLIC.{LIS/NJ OR BLANK.}VIN/1GT3456.{VMA/.}

Note:

1. See Page Following for Bundled Message Formats and Miscellaneous Notations.

MQ Request Message Formats (contd.)

Msg Type	Msg Key	Message Format
BNDLE	FULL	ORI/NJNSPXXXX.VIN/1GT3456.LIS/NJ
BNDLE	FULL	ORI/NJNSPXXXX.VIN/1GT3456.LIS/NON-NJ ***NLETS
BNDLE	FULL or RAND	ORI/NJNSPXXXX.LIC/TESTLIC.LIS/NJ
BNDLE	FULL	ORI/NJNSPXXXX.LIC/TESTLIC.LIS/NON-NJ.LIT/PC.LIY/2001. ***NLETS
BNDLE	FULL	ORI/NJNSPXXXX.OLN/N01234567890123.LIS/NJ
BNDLE	FULL	ORI/NJNSPXXXX.OLN/N01234567890123.LIS/NON-NJ. ***NLETS
BNDLE	FULL	ORI/NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.{SEX/.}.LIS/NJ
BNDLE	FULL	ORI/NJNSPXXXX.NAM/TEST,TEST.DOB/19700101.SEX/M.LIS/NON-NJ. ***NLETS

Miscellaneous Notations:

- ***NLETS – “NON-NJ” references the entry of a valid 2 character state code other than “NJ”.
- NCIC QV and QW Message formats must match exactly, as depicted in this document. Diverting from the documented fields will in most cases cause a reject message to be returned from NCIC.
- NCIC “QW” messages – Message formats that utilize the LIS field must also have the LIC field included in the message string.

I.E. – The more lengthy QW request formats indicate that fields other than NAM and DOB can be provided. LIS is indicated as an optional field however in the case of including the LIS field; LIC must precede the LIS field or the message will be rejected by NCIC.

Valid - QW.NJNSPXXXX.NAM/TEST,TEST.{SEX/.}{RAC/.}OLN/N01234567890123.SOC/123456789.LIC/TESTLIC.LIS/N0

Invalid - QW.NJNSPXXXX.NAM/TEST,TEST.{SEX/.}{RAC/.}OLN/N01234567890123.SOC/123456789.LIS/N0

Response Message Matrix

MQ Response Message Matrix

Req Type	MSG Key	Request Data	NCIC	NJWP	DMV	NLETS	AOC
NCIC	QW	NAM/.DOB/.{SEX/}.{RAC/}	YES	YES	NO	NO	NO
NCIC	QW	NAM/.OLN/.{SEX/}.{RAC/}	YES	YES	NO	NO	NO
NCIC	QW	NAM/.SOC/.{SEX/}.{RAC/}	YES	YES	NO	NO	NO
NCIC	QW	NAM/.DOB/.{SEX/}.{RAC/}.OLN/.	YES	YES	NO	NO	NO
NCIC	QW	NAM/.DOB/.{SEX/}.{RAC/}.SOC/.	YES	YES	NO	NO	NO
NCIC	QW	NAM/.DOB/.{SEX/}.{RAC/}.OLN/.SOC/.	YES	YES	NO	NO	NO
NCIC	QW	NAM/.{SEX/}.{RAC/}.OLN/.SOC/.	YES	YES	NO	NO	NO
NCIC	QW	NAM/.LIC/.{LIS/NJ OR BLANK.}	YES	YES	NO	NO	NO
NCIC	QW	NAM/.LIC/.{LIS/NON-NJ.}	YES	YES	NO	NO	NO
NCIC	QW	NAM/.DOB/.{SEX/}.{RAC/}.OLN/.SOC/.LIC/.{LIS/}	YES(*)	YES(*)	NO	NO	NO
NCIC	QW	NAM/.{SEX/}.{RAC/}.OLN/.SOC/.LIC/.{LIS/}	YES(*)	YES(*)	NO	NO	NO
NCIC	QW	NAM/.VIN/.{VMA/}	YES	YES	NO	NO	NO
NCIC	QW	NAM/.DOB/.{SEX/}.{RAC/}.VIN/.{VMA/}	YES(*)	YES(*)	NO	NO	NO
NCIC	QW	NAM/.DOB/.{SEX/}.{RAC/}.OLN/.SOC/.LIC/.{LIS/}.VIN/.{VMA/}	YES(*)	YES(*)	NO	NO	NO
NCIC	QV	LIC/.LIS/NON-NJ.	YES	YES	NO	NO	NO
NCIC	QV	LIC/.LIS/NJ.	YES	YES	YES	NO	NO
NCIC	QV	VIN/.{VMA/}	YES	YES	YES	NO	NO
NCIC	QV	LIC/.LIS/NON-NJ.VIN/.{VMA/}	YES	YES	NO	NO	NO
NCIC	QV	LIC/.{LIS/NJ OR BLANK.}.VIN/.{VMA/}	YES(*)	YES(*)	YES (LIC)	NO	NO

Note:

1. (*) – Indicates that multiple responses from the Data Source may be forwarded.
2. See Page Following for Bundled Message Formats

MQ Response Message Matrix (contd.)

Req Type	MSG Key	Request Data	NCIC	NJWP	DMV	NLETS	AOC
BNDLE	FULL	VIN/.{LIS/NJ OR BLANK.} ** If NAM/full DOB available from DMV or ** If NAM/OLN available from DMV	YES YES YES	YES YES YES	YES N/A N/A	NO NO NO	NO
BNDLE	FULL	VIN/.LIS/NON-NJ.	YES	YES	NO	YES	NO
BNDLE	FULL or RAND	LIC/.{LIS/NJ OR BLANK.} ** If NAM/full DOB available from DMV or ** If NAM/OLN available from DMV	YES YES YES	YES YES YES	YES N/A N/A	NO NO NO	YES(*)
BNDLE	FULL	LIC/.LIS/NON-NJ.LIT/.LIY/.	YES	YES	NO	YES	NO
BNDLE	FULL	OLN/.{LIS/NJ OR BLANK.} ** If NAM/full DOB available from DMV or ** If NAM/OLN available from DMV	NO YES YES	YES YES NO	YES N/A N/A	NO NO NO	YES
BNDLE	FULL	OLN/.LIS/NON-NJ.	NO	YES	NO	YES	NO
BNDLE	FULL	NAM/.DOB/.{SEX/.}{LIS/NJ OR BLANK.} ** If dups from DMV with OLN and '00' in dobdd	YES YES	YES N/A	YES N/A	NO NO	NO
BNDLE	FULL	NAM/.DOB/.SEX/.LIS/NON-NJ.	YES	YES	NO	YES	NO

Note:

- (*) Indicates – For Bundled Requests (NJ Plate and NJ Driver License Number (OLN) Inquiries) an AOC response will be returned if a valid OLN is retrieved from the spawned NJDMV Inquiry.

MQ Integrated Test Records

Development and Production Test Record Matrix

#	NCIC Key Fields	Msg Key / Msg Type	Notes	System Testing	NCIC			NJ Wanted Persons	NJ DMV	NLETS Stolen Vehicle
					Stolen Vehicle	Wanted Persons	Wanted Persons			
1.	LIC/ABC123	NCIC / QV or BNDLE / FULL or RAND	<p>NJ Vehicle – LIS/NJ is optional</p> <ul style="list-style-type: none"> (*) – Generic Response “No Hit for Registered Owner” is returned. (**) – The NCIC response for a BNDLE/FULL request will reflect “No Hit for ‘Driver Name & DOB’ “. The NCIC response for a BNDLE/RAND request will reflect “No Hit for Registered Owner”. (***) – 2 Generic Responses “No Hit for Registered Owner” and “No NJ State Wanted Record LIC/YM136S” (****) – Only NJDMV Vehicle Information is returned. 	Virtual	No Hit	No Hit (*) (**)	No Hit (****)	No Hit (****)	Hit (****)	N/A
2.	NAM/TESTER,DAVE DOB/19640828	NCIC / QW or BNDLE / FULL		Virtual	N/A	Hit	No Hit	No Hit	No Hit	N/A
3.	NAM/TEST,ROSE DOB/19600803	NCIC / QW or BNDLE / FULL	<ul style="list-style-type: none"> Large Response message – Segmented into 2 messages Includes Image in Response Non-NJ Request(NLETS) → “LIS/State” is required to be forwarded in the request message. Non-NJ Request(NLETS) → “Sex” is required to be forwarded in the request message. 	Dev	N/A	Hit	Hit	Hit	Hit	N/A

#	NCIC Key Fields	Msg Key / Msg Type	Notes	System Testing	NCIC		NJ Wanted Persons	NJ DMV	NLETS Stolen Vehicle
					Stolen Vehicle	Wanted Persons			
4.	NAM/TEST,JEFFREY DOB/19650803	NCIC / QW or BNDLE / FULL	<ul style="list-style-type: none"> Includes Image in Response Non-NJ Request(NLETS) → “LIS/State” is required to be forwarded in the request message. Non-NJ Request(NLETS) → “Sex” is required to be forwarded in the request message. 	Dev	N/A	No Hit	Hit	Hit	N/A
5.	LIC/TEST1 LIS/AZ LIY/2001 LIT/PC	NCIC / QV or BNDLE / FULL Only	<ul style="list-style-type: none"> (*) - A Hit from NLETS will only be returned if the Remote system Administrator has coordinated, with the NJSP ITB, the opening of the NLETS Test System connection. Please advise the NJSP ITB if the NLETS record is not being returned from the corresponding Arizona Inquiry. 	Dev	Hit	N/A	N/A	N/A	Hit (*)
6.	LIC/YM136S	NCIC / QV or BNDLE / FULL or RAND	<ul style="list-style-type: none"> NJ Vehicle – LIS/NJ is optional (*) – Generic Response “No Hit for Registered Owner” is returned. (**) – The NCIC response for a BNDLE/FULL request will reflect “No Hit for ‘Driver Name & DOB’ “. The NCIC response for a BNDLE/RAND request will reflect “No Hit for Registered Owner”. (***) – 2 Generic Responses “No Hit for Registered Owner” and “No NJ State Wanted Record LIC/YM136S” (****) – Only NJDMV Vehicle Information is returned. 	Dev	No Hit	No Hit (*) (**)	No Hit (***)	Hit (****)	N/A
7.	LIC/CAC72X	NCIC / QV or BNDLE / FULL or RAND	<ul style="list-style-type: none"> NJ Vehicle – LIS/NJ is optional (*) – Same as # 8 (**) – Same as # 8 (***) – Same as # 8 (****) – Same as # 8 	Dev	No Hit	No Hit (*) (**)	No Hit (***)	Hit (****)	N/A

#	NCIC Key Fields	Msg Key / Msg Type	Notes	System Testing	NCIC			NJ Wanted Persons	NJ DMV	NLETS Stolen Vehicle
					Stolen Vehicle	Wanted Persons				
8.	OLN/W03235187159446	NCIC / QV or BNDLE / FULL Only	<ul style="list-style-type: none">NJ Driver for NJ registered vehicle(*) – NJDMV Hit returned Driver Name and DOB, which generates a “No Hit” response from the NCIC & NJWP systems.	Dev	N/A	No Hit (*)	No Hit (*)	Hit	N/A	
9.	NAM/TEST,WAYNE DOB/19560602	NCIC / QW or BNDLE / FULL	<ul style="list-style-type: none">Includes Image in Response	Prod	N/A	Hit	No Hit	Hit	N/A	

Legend -

1. System Testing: Virtual-Virtual Mainframe, Dev-Development, Prod- Production

Requirements Document Revision Notes

Document Revision Log

Date	Version	Section of Document	Description
7/2/01	1.1	<ul style="list-style-type: none"> Multiple areas in Guidelines Request Message Formats (Appendix) Response Message Formats (Appendix) 	Random(Rand) Message Key – changed the Random Message Key to relate only to “BNDLE” NJ License Plate Inquiries.
7/2/01	1.1	Transmission Format Requirements	Last-Segment-Ind – changed the initial value to be populated by the remote system to a “Y”.
7/2/01	1.1	Transmission Format Requirements	Message-Type – corrected the field description paragraph’s reference to the initial value. Changed from “RAND” to “NCIC”.
7/2/01	1.1	Transmission Format Requirements	Correlation-Id – changed the special notes paragraph to indicate that the original request message’s Client Header, including the Correlation -Id is returned with a \$.H response message being returned to the inquiry requestor.
7/2/01	1.1	MQ/Remote System Installation Parameters	Remote System Remote Queue – added reference information for defining the CJIS Server Request Queue, which was previously omitted.
7/2/01	1.1	MQ/Remote System Installation Parameters	Remote System Sender Channel – Connection Name - added parameter reference for indicating CJIS Development or Production IP address as the Connection Name.
7/25/01	1.1	Transmission Format and Requirements	Response Messages – added reference information for response message Message-Key update to identify a response message’s data source.
7/25/01	1.1	Request Messages – CLIENT HEADER	Bundled Message Type - added Driver Owner spawned NCIC and NJWP Person Inquiry hierarchical criteria.
8/20/01	1.1	MQ/Remote System Installation Parameters	Inserted complete list of MQ Object properties for the Client, Virtual Mainframe, NJSP Mainframe Development, and NJSP Production MQ environments.
9/28/01	1.1	MQ Standards – CLIENT HEADER	Record Type – Added Client header field reference information for “Record Type”, page 18. This was omitted, in error, in the original release of the document.
10/01/01	1.1	Implementation Planning – Virtual Mainframe	Virtual Mainframe – Added Overview of Virtual Mainframe testing Objectives and Expectations.
10/01/01	1.1	Implementation Planning – Integrated Testing	Integrated Testing – Added Overview of Integrated Testing Objectives and Expectations.
10/12/01	1.1	CLIENT HEADER – Message Length Field	Message-Length – Changed message length determination to reflect the length of the CLIENT MESSAGE area as designated in the MQ Transmission diagram on the previous page.
10/12/01	1.1	Response Messages – Image Response Data	Image Indicator (IND/) – Updated section to reflect the use of the “IND/” MFC on Client Request Messages and the FBI’s NCIC 2000 treatment of this indicator and their default reference.
3/21/02	1.2	APPENDIX - Request Message Formats	OLN Examples – Correct NJDMV Format requires a single alpha character in position 1 maximum length of 20 characters.
10/30/02	1.3	APPENDIX - Request Message Formats	BNDLE – Vehicle requests (LIC, VIN, OLN) – LIS/NJ must be included in the Request Message data string for NJ Inquiries.
3/11/03	1.3	Client Header – Message Type	Message Type, Page 18 - added AOC/ATS response message Note. Response Message Header field, Message Type changed to “AOC” when a response from AOC is being sent to the requestor.

Date	Version	Section of Document	Description
3/11/03	1.3	Client Message – Response Message	Response Messages, Page 21 - added AOC/ATS response message Note. Response Message Header field, Message Type changed to “AOC” when a response from AOC is being returned to the requestor.
3/11/03	1.3	APPENDIX – Response Message Matrix	AOC – Added the AOC response indicator column that indicates AOC/ATS responses will be returned for All Bundled requests that specify either NJ Plate or NJ Driver License Number (OLN) inquiry data.
3/11/03	1.3	NJSP Contact Info	CJIS Control Unit Contact, Page 6 – Changed contact information back to Bill Place due to retirement of Rich Turaniczo.
5/27/03	1.3	MQ Integrated Test Records	Production Test Record – added “Test, Wayne” reference which returns an image in the Production environment for Vendor demonstration purposes.
9/08/03	1.3	APPENDIX – Development and Production Test Record Matrix	Test Record # 2 (Testre, Dave...) – changed the reference for NJ DMV from “Hit” to “No Hit”. The Virtual Mainframe does not return a NJDMV Hit for this test record.

Note: Remote System Hardware or Software Upgrades that have the potential of impacting the CJIS Server Interface must be coordinated with the NJSP ITB Primary Contact and the CJIS Control Unit prior to Production implementation.

End of MQ / Remote System Interface Requirements Document

10/01/01